

However Hummel begins by imposing certain arbitrary “communication conditions”, by which he means the blocking of certain links (pa5 and pa6), without stating categorically how or why such “communication conditions” would be chosen. Hummel implies that such links might be blocked *owing to the instantaneous network usage factor*, column 3, line 37. Then, given the topology including these arbitrarily blocked links, Hummel describes a method of determining *a route which makes bypasses via other subnetworks* (peer groups), column 3, lines 33-34. Hummel defines a “bypass” as a part of the route that *leaves ... one subnetwork* (peer group) ... *and returns to said subnetwork* (peer group) *in the further course of the route*, column 3, lines 13-15. Hummel implies that this method extends the ATM-PNNI protocol, the latter which *does not ... provide the possibility of also including in the route search advantageous bypasses [as described by Hummel]* column 2, lines 41-48.

On the other hand, the present invention as defined in claim 3 relates to “*a method of implementing constraints in a hierarchical network*”. As per the title of the invention, the implementation of constraints is for the purpose of ensuring deadlock avoidance. As mentioned above, while Hummel refers to the blocking of certain links, the choice of these links is based on some undefined conditions. From this starting point, Hummel then proceeds to define his invention, which relates to determining routes in the network (which is not the purpose of the present invention). While Hummel may show an example in which links are blocked and, in that particular example, the blocking of such links may even result in a network that could avoid deadlocks, the blocks are not described as to be for this purpose and it does not provide a generalized method for achieving such a result. That is, it does not disclose steps of a method that can be applied to networks of different configurations in order to determine the location of routing constraints such that deadlock avoidance is the result.

Kohler also has very little in common with the present invention, and certainly does not anticipate it or have any bearing on the issue of obviousness. Kohler *is directed towards an optimization of routing of data in a network using existing routing protocols*, paragraph [0011]. It covers a variety of criteria and means of achieving this. As stated above, determining routes in the network is not the purpose of the present invention. Kohler does not disclose steps of a method that can be applied to networks of different configurations in order to determine the location of routing constraints such that deadlock avoidance is the result, which is the purpose of the present invention.

Hummel and Kohler have different purposes, and are incompatible, in that they cannot be combined in any way that satisfies the requirements of either invention. Certainly, any combination would not anticipate the present invention, nor have any bearing on the issue of obviousness.

The above arguments make it clear that neither Hummel nor Kohler, nor their combination, have any bearing on the issues of anticipation or obviousness of the present invention, irrespective of the types of ‘blocks’ provided in Hummel or Kohler. We now turn to the issue of the types of blocks. We previously pointed out that the type of blocks provided in Hummel is not of the same type disclosed and claimed in the present invention. In Hummel, the blocks mentioned simply prevent traffic passing from the node at one end of the link to the node at the other end of the link. In the present invention, the operation of the “cuts” or “meta-cuts” is quite different to Hummel’s blocks. The cuts do not prevent traffic flow on any particular link as in Hummel. The cuts are placed in a node between pairs of links and prevent traffic entering the node on one of the links from leaving on the other. This arrangement, which is not present in Hummel, is clearly reflected in the claims.

We also submit that the constraints provided in Kohler in figure 2, paragraph [0078] (or indeed elsewhere in Kohler) are not of the same type disclosed and claimed in the present invention. The combination of the four sub-constraints described in Kohler in paragraphs [0072]-[0077] have *the effect of ... [defining] exactly one loop-free data path from the sending node u to the receiving node v*, paragraph [0078]. This is not at all the same as “preventing traffic entering the node on one of the links from leaving on the other”. **But even if the blocks in Hummel were modified by combination with some hypothetical prior art so as to be the same as those of the present invention, it is irrelevant. The invention relates to a method to determine the location of routing constraints such that deadlock avoidance is the result – the actual kind of constraint is not being independently claimed.**

The above arguments also apply to Claim 5. In addition, we point out that, in itself, the use of routing constraints in a hierarchical network is not being claimed in the present invention. What is claimed is the method to determine in a hierarchical network the location of the routing constraints such that deadlock avoidance is the result. We submit that the meta-cuts are novel, but even if they are not, it is the determination of the location of these meta-cuts, and how to implement them, which is claimed.

In light of the above we submit that Claims 3 and 5 are not disclosed nor suggested, nor made obvious, by Hummel or Kohler or any combination thereof, or by Hummel with combination with any other hypothetical prior art.

Allowable Subject Matter

5. It is noted that Claims 1 and 2 are already agreed to be allowable.
6. Since the objections arising from informalities (see point 2 above) have been accommodated in full, and the grounds for rejection of Claims 3 and 5 have been

avoided (see point 4 above), Claims 4 and 6 should be allowed after being amended as specified in point 2 above.

Response to Arguments

7. The previous arguments with respect to Claim 3, given in the amendment filed on September 4, 2007, avoid both the grounds for rejection raised in the Office Action mailed on May 2, 2007, *and* the grounds for rejection raised in the Office Action mailed on November 1, 2007. These arguments have been presented in point 4 above, in the context of the most recent grounds for rejection, which are also addressed specifically.

Allowance of the application in its present form is respectfully solicited, after amending Claims 2 and 4-6 as per point 2 in the Office Action mailed on November 1, 2007.

Respectfully submitted,

/VWittorff/

By: Dr Vaughan William Wittorff

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